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<170> PatentIn version 3.2

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 site of hCMV-G

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 site of hCMV-G

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Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Glu
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Gly Gly Ala Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
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Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Phe Phe Ser Ile
35 40 45

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Tyr
50 55 60

Gln Val Arg Asn Ser Ser Gly Leu Tyr His Val Thr Asn Asp Cys Pro
65 70 75 80

Asn Ser Ser Ile Val Tyr Glu Ala Ala Asp Ala Ile Leu His Thr Pro
85 90 95

Gly Cys Val Pro Cys Val Arg Glu Gly Asn Ala Ser Arg Cys Trp Val
100 105 110

Ala Val Thr Pro Thr Val Ala Thr Arg Asp Gly Lys Leu Pro Thr Thr
115 120 125

Gln Leu Arg Arg His Ile Asp Leu Leu Val Gly Ser Ala Thr Leu Cys
130 135 140

Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val Gly
145 150 155 160

Gln Leu Phe Thr Phe Ser Pro Arg Arg His Trp Thr Thr Gln Ser Cys
165 170 175

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala Trp
 180 185 190

Asp Met Met Met Asn Trp Ser Pro Thr Ala Ala Leu Val Val Ala Gln
 195 200 205

Leu Leu Arg Ile Pro Gln Ala Ile Met Asp Met Ile Ala Gly Ala His
 210 215 220

Trp Gly Val Leu Ala Gly Ile Ala Tyr Phe Ser Met Val Gly Asn Trp
 225 230 235 240

Ala Lys Val Leu Val Val Leu Leu Leu Phe Ala Gly Val Asp Ala Glu
 245 250 255

Thr His Val Thr Gly Gly Ser Ala Gly His Thr Thr Ala Gly Leu Val
 260 265 270

Gly Leu Leu Thr Pro Gly Ala Lys Gln Asn Ile Gln Leu Ile Asn Thr
 275 280 285

Asn Gly Ser Trp His Ile Asn Ser Thr Ala Leu Asn Cys Asn Asp Ser
 290 295 300

Leu Thr Thr Gly Trp Leu Ala Gly Leu Phe Tyr Arg His Lys Phe Asn
 305 310 315 320

Ser Ser Gly Cys Pro Glu Arg Leu Ala Ser Cys Arg Arg Leu Thr Asp
 325 330 335

Phe Ala Gln Gly Trp Gly Pro Ile Ser Tyr Ala Asn Gly Ser Gly Leu
 340 345 350

Asp Glu Arg Pro Tyr Cys Trp His Tyr Pro Pro Arg Pro Cys Gly Ile
 355 360 365

Val Pro Ala Lys Ser Val Cys Gly Pro Val Tyr Cys Phe Thr Pro Ser
 370 375 380

Pro Val Val Val Gly Thr Thr Asp Arg Ser Gly Ala Pro Thr Tyr Ser
 385 390 395 400

Trp Gly Ala Asn Asp Thr Asp Val Phe Val Leu Asn Asn Thr Arg Pro
 405 410 415

Pro Leu Gly Asn Trp Phe Gly Cys Thr Trp Met Asn Ser Thr Gly Phe

| 420 | 425 | 430 |
|--|-----|-----|
| Thr Lys Val Cys Gly Ala Pro Pro Cys Val Ile Gly Gly Val Gly Asn 435 440 445 | | |
| Asn Thr Leu Leu Cys Pro Thr Asp Cys Phe Arg Lys His Pro Glu Ala 450 455 460 | | |
| Thr Tyr Ser Arg Cys Gly Ser Gly Pro Trp Ile Thr Pro Arg Cys Met 465 470 475 480 | | |
| Val Asp Tyr Pro Tyr Arg Leu Trp His Tyr Pro Cys Thr Ile Asn Tyr 485 490 495 | | |
| Thr Ile Phe Lys Val Arg Met Tyr Val Gly Gly Val Glu His Arg Leu 500 505 510 | | |
| Glu Ala Ala Cys Asn Trp Thr Arg Gly Glu Arg Cys Asp Leu Glu Asp 515 520 525 | | |
| Arg Asp Arg Ser Glu Leu Ser Pro Leu Leu Leu Ser Thr Thr Gln Trp 530 535 540 | | |
| Gln Val Leu Pro Cys Ser Phe Thr Thr Leu Pro Ala Leu Ser Thr Gly 545 550 555 560 | | |
| Leu Ile His Leu His Gln Asn Ile Val Asp Val Gln Tyr Leu Tyr Gly 565 570 575 | | |
| Val Gly Ser Ser Ile Ala Ser Trp Ala Ile Lys Trp Glu Tyr Val Val 580 585 590 | | |
| Leu Leu Phe Leu Leu Leu Ala Asp Ala Arg Val Cys Ser Cys Leu Trp 595 600 605 | | |
| Met Met Leu Leu Ile Ser Gln Ala Glu Ala Ala Leu Glu Asn Leu Val 610 615 620 | | |
| Ile Leu Asn Ala Ala Ser Leu Ala Gly Thr His Gly Leu Val Ser Phe 625 630 635 640 | | |
| Leu Val Phe Phe Cys Phe Ala Trp Tyr Leu Lys Gly Arg Trp Val Pro 645 650 655 | | |
| Gly Ala Val Tyr Ala Phe Tyr Gly Met Trp Pro Leu Leu Leu Leu Leu 660 665 670 | | |

Leu Ala Leu Pro Gln Arg Ala Tyr Ala Glx
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Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly
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Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Pro Glu Gly Arg Thr Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
 85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro
 100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
 115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu
 130 135 140

Gly Gly Ala Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
 145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
 165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Tyr
 180 185 190

Gln Val Arg Asn Ser Ser Gly Leu Tyr His Val Thr Asn Asp Cys Pro
 195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Ala Asp Ala Ile Leu His Thr Pro
 210 215 220

Gly Cys Val Pro Cys Val Arg Glu Gly Asn Ala Ser Arg Cys Trp Val
 225 230 235 240

Ala Val Thr Pro Thr Val Ala Thr Arg Asp Gly Lys Leu Pro Thr Thr
 245 250 255

Gln Leu Arg Arg His Ile Asp Leu Leu Val Gly Ser Ala Thr Leu Cys
 260 265 270

Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val Gly
 275 280 285

Gln Leu Phe Thr Phe Ser Pro Arg Arg His Trp Thr Thr Gln Asp Cys
 290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala Trp
 305 310 315 320

Asp Met Met Met Asn Trp Ser Pro Thr Ala Ala Leu Val Val Ala Gln
 325 330 335

Leu Leu Arg Ile Pro Gln Ala Ile Met Asp Met Ile Ala Gly Ala His
 340 345 350

Trp Gly Val Leu Ala Gly Ile Ala Tyr Phe Ser Met Val Gly Asn Trp
 355 360 365

Ala Lys Val Leu Val Val Leu Leu Leu Phe Ala Gly Val Asp Ala Glu
 370 375 380

Thr His Val Thr Gly Gly Ser Ala Gly Arg Thr Thr Ala Gly Leu Val
 385 390 395 400

Gly Leu Leu Thr Pro Gly Ala Lys Gln Asn Ile Gln Leu Ile Asn Thr
 405 410 415

Asn Gly Ser Trp His Ile Asn Ser Thr Ala Leu Asn Cys Asn Glu Ser
 420 425 430

Leu Asn Thr Gly Trp Leu Ala Gly Leu Phe Tyr Gln His Lys Phe Asn
 435 440 445

Ser Ser Gly Cys Pro Glu Arg Leu Ala Ser Cys Arg Arg Leu Thr Asp
 450 455 460

Phe Ala Gln Gly Trp Gly Pro Ile Ser Tyr Ala Asn Gly Ser Gly Leu
 465 470 475 480

Asp Glu Arg Pro Tyr Cys Trp His Tyr Pro Pro Arg Pro Cys Gly Ile
 485 490 495

Val Pro Ala Lys Ser Val Cys Gly Pro Val Tyr Cys Phe Thr Pro Ser
 500 505 510

Pro Val Val Val Gly Thr Thr Asp Arg Ser Gly Ala Pro Thr Tyr Ser
 515 520 525

Trp Gly Ala Asn Asp Thr Asp Val Phe Val Leu Asn Asn Thr Arg Pro
 530 535 540

Pro Leu Gly Asn Trp Phe Gly Cys Thr Trp Met Asn Ser Thr Gly Phe
 545 550 555 560

Thr Lys Val Cys Gly Ala Pro Pro Cys Val Ile Gly Gly Val Gly Asn
 565 570 575

Asn Thr Leu Leu Cys Pro Thr Asp Cys Phe Arg Lys His Pro Glu Ala
 580 585 590

Thr Tyr Ser Arg Cys Gly Ser Gly Pro Trp Ile Thr Pro Arg Cys Met
 595 600 605

Val Asp Tyr Pro Tyr Arg Leu Trp His Tyr Pro Cys Thr Ile Asn Tyr
 610 615 620

Thr Ile Phe Lys Val Arg Met Tyr Val Gly Gly Val Glu His Arg Leu
 625 630 635 640

Glu Ala Ala Cys Asn Trp Thr Arg Gly Glu Arg Cys Asp Leu Glu Asp
 645 650 655

Arg Asp Arg Ser Glu Leu Ser Pro Leu Leu Leu Ser Thr Thr Gln Trp
 660 665 670

Gln Val Leu Pro Cys Ser Phe Thr Thr Leu Pro Ala Leu Ser Thr Gly
 675 680 685

Leu Ile His Leu His Gln Asn Ile Val Asp Val Gln Tyr Leu Tyr Gly
 690 695 700

Val Gly Ser Ser Ile Ala Ser Trp Ala Ile Lys Trp Glu Tyr Val Val
 705 710 715 720

Leu Leu Phe Leu Leu Leu Ala Asp Ala Arg Val Cys Ser Cys Leu Trp
 725 730 735

Met Met Leu Leu Ile Ser Gln Ala Glu Ala Ala Leu Glu Asn Leu Val
 740 745 750

Ile Leu Asn Ala Ala Ser Leu Ala Gly Thr His Gly Leu Val Ser Phe
 755 760 765

Leu Val Phe Phe Cys Phe Ala Trp Tyr Leu Lys Gly Arg Trp Val Pro
 770 775 780

Gly Ala Val Tyr Ala Phe Tyr Gly Met Trp Pro Leu Leu Leu Leu Leu
 785 790 795 800

Leu Ala Leu Pro Gln Arg Ala Tyr Ala Leu Asp Thr Glu Val Ala Ala

| | | |
|---|------|------|
| 805 | 810 | 815 |
| Ser Cys Gly Gly Val Val Leu Val Gly Leu Met Ala Leu Thr Leu Ser | | |
| 820 | 825 | 830 |
| Pro Tyr Tyr Lys Arg Tyr Ile Ser Trp Cys Met Trp Trp Leu Gln Tyr | | |
| 835 | 840 | 845 |
| Phe Leu Thr Arg Val Glu Ala Gln Leu His Val Trp Val Pro Pro Leu | | |
| 850 | 855 | 860 |
| Asn Val Arg Gly Gly Arg Asp Ala Val Ile Leu Leu Met Cys Val Val | | |
| 865 | 870 | 875 |
| His Pro Thr Leu Val Phe Asp Ile Thr Lys Leu Leu Leu Ala Ile Phe | | |
| 885 | 890 | 895 |
| Gly Pro Leu Trp Ile Leu Gln Ala Ser Leu Leu Lys Val Pro Tyr Phe | | |
| 900 | 905 | 910 |
| Val Arg Val Gln Gly Leu Leu Arg Ile Cys Ala Leu Ala Arg Lys Ile | | |
| 915 | 920 | 925 |
| Ala Gly Gly His Tyr Val Gln Met Ala Ile Ile Lys Leu Gly Ala Leu | | |
| 930 | 935 | 940 |
| Thr Gly Thr Tyr Val Tyr Asn His Leu Thr Pro Leu Arg Asp Trp Ala | | |
| 945 | 950 | 955 |
| His Asn Gly Leu Arg Asp Leu Ala Val Ala Val Glu Pro Val Val Phe | | |
| 965 | 970 | 975 |
| Ser Arg Met Glu Thr Lys Leu Ile Thr Trp Gly Ala Asp Thr Ala Ala | | |
| 980 | 985 | 990 |
| Cys Gly Asp Ile Ile Asn Gly Leu Pro Val Ser Ala Arg Arg Gly Gln | | |
| 995 | 1000 | 1005 |
| Glu Ile Leu Leu Gly Pro Ala Asp Gly Met Val Ser Lys Gly Trp | | |
| 1010 | 1015 | 1020 |
| Arg Leu Leu Ala Pro Ile Thr Ala Tyr Ala Gln Gln Thr Arg Gly | | |
| 1025 | 1030 | 1035 |
| Leu Leu Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn | | |
| 1040 | 1045 | 1050 |

| | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|
| Gln | Val | Glu | Gly | Glu | Val | Gln | Ile | Val | Ser | Thr | Ala | Thr | Gln | Thr |
| 1055 | | | | | | 1060 | | | | | 1065 | | | |
| Phe | Leu | Ala | Thr | Cys | Ile | Asn | Gly | Val | Cys | Trp | Thr | Val | Tyr | His |
| 1070 | | | | | | 1075 | | | | | 1080 | | | |
| Gly | Ala | Gly | Thr | Arg | Thr | Ile | Ala | Ser | Pro | Lys | Gly | Pro | Val | Ile |
| 1085 | | | | | | 1090 | | | | | 1095 | | | |
| Gln | Met | Tyr | Thr | Asn | Val | Asp | Gln | Asp | Leu | Val | Gly | Trp | Pro | Ala |
| 1100 | | | | | | 1105 | | | | | 1110 | | | |
| Pro | Gln | Gly | Ser | Arg | Ser | Leu | Thr | Pro | Cys | Thr | Cys | Gly | Ser | Ser |
| 1115 | | | | | | 1120 | | | | | 1125 | | | |
| Asp | Leu | Tyr | Leu | Val | Thr | Arg | His | Ala | Asp | Val | Ile | Pro | Val | Arg |
| 1130 | | | | | | 1135 | | | | | 1140 | | | |
| Arg | Arg | Gly | Asp | Ser | Arg | Gly | Ser | Leu | Leu | Ser | Pro | Arg | Pro | Ile |
| 1145 | | | | | | 1150 | | | | | 1155 | | | |
| Ser | Tyr | Leu | Lys | Gly | Ser | Ser | Gly | Gly | Pro | Leu | Leu | Cys | Pro | Ala |
| 1160 | | | | | | 1165 | | | | | 1170 | | | |
| Gly | His | Ala | Val | Gly | Leu | Phe | Arg | Ala | Ala | Val | Cys | Thr | Arg | Gly |
| 1175 | | | | | | 1180 | | | | | 1185 | | | |
| Val | Ala | Lys | Ala | Val | Asp | Phe | Ile | Pro | Val | Glu | Asn | Leu | Glu | Thr |
| 1190 | | | | | | 1195 | | | | | 1200 | | | |
| Thr | Met | Arg | Ser | Pro | Val | Phe | Thr | Asp | Asn | Ser | Ser | Pro | Pro | Ala |
| 1205 | | | | | | 1210 | | | | | 1215 | | | |
| Val | Pro | Gln | Ser | Phe | Gln | Val | Ala | His | Leu | His | Ala | Pro | Thr | Gly |
| 1220 | | | | | | 1225 | | | | | 1230 | | | |
| Ser | Gly | Lys | Ser | Thr | Lys | Val | Pro | Ala | Ala | Tyr | Ala | Ala | Gln | Gly |
| 1235 | | | | | | 1240 | | | | | 1245 | | | |
| Tyr | Lys | Val | Leu | Val | Leu | Asn | Pro | Ser | Val | Ala | Ala | Thr | Leu | Gly |
| 1250 | | | | | | 1255 | | | | | 1260 | | | |
| Phe | Gly | Ala | Tyr | Met | Ser | Lys | Ala | His | Gly | Val | Asp | Pro | Asn | Ile |
| 1265 | | | | | | 1270 | | | | | 1275 | | | |

| | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|
| Arg | Thr | Gly | Val | Arg | Thr | Ile | Thr | Thr | Gly | Ser | Pro | Ile | Thr | Tyr |
| 1280 | | | | | | 1285 | | | | | 1290 | | | |
| Ser | Thr | Tyr | Gly | Lys | Phe | Leu | Ala | Asp | Gly | Gly | Cys | Ser | Gly | Gly |
| 1295 | | | | | | 1300 | | | | | 1305 | | | |
| Ala | Tyr | Asp | Ile | Ile | Ile | Cys | Asp | Glu | Cys | His | Ser | Thr | Asp | Ala |
| 1310 | | | | | | 1315 | | | | | 1320 | | | |
| Thr | Ser | Ile | Leu | Gly | Ile | Gly | Thr | Val | Leu | Asp | Gln | Ala | Glu | Thr |
| 1325 | | | | | | 1330 | | | | | 1335 | | | |
| Ala | Gly | Ala | Arg | Leu | Val | Val | Leu | Ala | Thr | Ala | Thr | Pro | Pro | Gly |
| 1340 | | | | | | 1345 | | | | | 1350 | | | |
| Ser | Val | Thr | Val | Ser | His | Pro | Asn | Ile | Glu | Glu | Val | Ala | Leu | Ser |
| 1355 | | | | | | 1360 | | | | | 1365 | | | |
| Thr | Thr | Gly | Glu | Ile | Pro | Phe | Tyr | Gly | Lys | Ala | Ile | Pro | Leu | Glu |
| 1370 | | | | | | 1375 | | | | | 1380 | | | |
| Val | Ile | Lys | Gly | Gly | Arg | His | Leu | Ile | Phe | Cys | His | Ser | Lys | Lys |
| 1385 | | | | | | 1390 | | | | | 1395 | | | |
| Lys | Cys | Asp | Glu | Leu | Ala | Ala | Lys | Leu | Val | Ala | Leu | Gly | Ile | Asn |
| 1400 | | | | | | 1405 | | | | | 1410 | | | |
| Ala | Val | Ala | Tyr | Tyr | Arg | Gly | Leu | Asp | Val | Ser | Val | Ile | Pro | Thr |
| 1415 | | | | | | 1420 | | | | | 1425 | | | |
| Ser | Gly | Asp | Val | Val | Val | Val | Ser | Thr | Asp | Ala | Leu | Met | Thr | Gly |
| 1430 | | | | | | 1435 | | | | | 1440 | | | |
| Phe | Thr | Gly | Asp | Phe | Asp | Ser | Val | Ile | Asp | Cys | Asn | Thr | Cys | Val |
| 1445 | | | | | | 1450 | | | | | 1455 | | | |
| Thr | Gln | Thr | Val | Asp | Phe | Ser | Leu | Asp | Pro | Thr | Phe | Thr | Ile | Glu |
| 1460 | | | | | | 1465 | | | | | 1470 | | | |
| Thr | Thr | Thr | Leu | Pro | Gln | Asp | Ala | Val | Ser | Arg | Thr | Gln | Arg | Arg |
| 1475 | | | | | | 1480 | | | | | 1485 | | | |
| Gly | Arg | Thr | Gly | Arg | Gly | Lys | Pro | Gly | Ile | Tyr | Arg | Phe | Val | Ala |
| 1490 | | | | | | 1495 | | | | | 1500 | | | |

| | | | |
|-----------------|-----------------------------|-----------------------------|-------------|
| Pro Gly 1505 | Glu Arg Pro Ser Gly 1510 | Met Phe Asp Ser Ser 1515 | Val Leu Cys |
| Glu Cys 1520 | Tyr Asp Ala Gly Cys 1525 | Ala Trp Tyr Glu Leu 1530 | Thr Pro Ala |
| Glu Thr 1535 | Thr Val Arg Leu Arg 1540 | Ala Tyr Met Asn Thr 1545 | Pro Gly Leu |
| Pro Val 1550 | Cys Gln Asp His Leu 1555 | Glu Phe Trp Glu Gly 1560 | Val Phe Thr |
| Gly Leu 1565 | Thr His Ile Asp Ala 1570 | His Phe Leu Ser Gln 1575 | Thr Lys Gln |
| Ser Gly 1580 | Glu Asn Phe Pro Tyr 1585 | Leu Val Ala Tyr Gln 1590 | Ala Thr Val |
| Cys Ala 1595 | Arg Ala Gln Ala Pro 1600 | Pro Pro Ser Trp Asp 1605 | Gln Met Trp |
| Lys Cys 1610 | Leu Ile Arg Leu Lys 1615 | Pro Thr Leu His Gly 1620 | Pro Thr Pro |
| Leu Leu 1625 | Tyr Arg Leu Gly Ala 1630 | Val Gln Asn Glu Val 1635 | Thr Leu Thr |
| His Pro 1640 | Ile Thr Lys Tyr Ile 1645 | Met Thr Cys Met Ser 1650 | Ala Asp Leu |
| Glu Val 1655 | Val Thr Ser Thr Trp 1660 | Val Leu Val Gly Gly 1665 | Val Leu Ala |
| Ala Leu 1670 | Ala Ala Tyr Cys Leu 1675 | Ser Thr Gly Cys Val 1680 | Val Ile Val |
| Gly Arg 1685 | Ile Val Leu Ser Gly 1690 | Lys Pro Ala Ile Ile 1695 | Pro Asp Arg |
| Glu Val 1700 | Leu Tyr Gln Glu Phe 1705 | Asp Glu Met Glu Glu 1710 | Cys Ser Gln |
| His Leu 1715 | Pro Tyr Ile Glu Gln 1720 | Gly Met Met Leu Ala 1725 | Glu Gln Phe |
| Lys Gln | Lys Ala Leu Gly Leu | Leu Gln Thr Ala Ser | Arg Gln Ala |

| | | | | |
|-----------------------------|---------------------|-------------|--|------|
| 1730 | | 1735 | | 1740 |
| Glu Val Ile Thr Pro Ala Val | Gln Thr Asn Trp Gln | Lys Leu Glu | | |
| 1745 | 1750 | 1755 | | |
| Val Phe Trp Ala Lys His Met | Trp Asn Phe Ile Ser | Gly Ile Gln | | |
| 1760 | 1765 | 1770 | | |
| Tyr Leu Ala Gly Leu Ser Thr | Leu Pro Gly Asn Pro | Ala Ile Ala | | |
| 1775 | 1780 | 1785 | | |
| Ser Leu Met Ala Phe Thr Ala | Ala Val Thr Ser Pro | Leu Thr Thr | | |
| 1790 | 1795 | 1800 | | |
| Gly Gln Thr Leu Leu Phe Asn | Ile Leu Gly Gly Trp | Val Ala Ala | | |
| 1805 | 1810 | 1815 | | |
| Gln Leu Ala Ala Pro Gly Ala | Ala Thr Ala Phe Val | Gly Ala Gly | | |
| 1820 | 1825 | 1830 | | |
| Leu Ala Gly Ala Ala Ile Gly | Ser Val Gly Leu Gly | Lys Val Leu | | |
| 1835 | 1840 | 1845 | | |
| Val Asp Ile Leu Ala Gly Tyr | Gly Ala Gly Val Ala | Gly Ala Leu | | |
| 1850 | 1855 | 1860 | | |
| Val Ala Phe Lys Ile Met Ser | Gly Glu Val Pro Ser | Thr Glu Asp | | |
| 1865 | 1870 | 1875 | | |
| Leu Val Asn Leu Leu Pro Ala | Ile Leu Ser Pro Gly | Ala Leu Val | | |
| 1880 | 1885 | 1890 | | |
| Val Gly Val Val Cys Ala Ala | Ile Leu Arg Arg His | Val Gly Pro | | |
| 1895 | 1900 | 1905 | | |
| Gly Glu Gly Ala Val Gln Trp | Met Asn Arg Leu Ile | Ala Phe Ala | | |
| 1910 | 1915 | 1920 | | |
| Ser Arg Gly Asn His Val Ser | Pro Thr His Tyr Val | Pro Glu Ser | | |
| 1925 | 1930 | 1935 | | |
| Asp Ala Ala Ala Arg Val Thr | Ala Ile Leu Ser Ser | Leu Thr Val | | |
| 1940 | 1945 | 1950 | | |
| Thr Gln Leu Leu Arg Arg Leu | His Gln Trp Ile Ser | Ser Glu Cys | | |
| 1955 | 1960 | 1965 | | |

| | | | |
|-----------------|-----------------------------|-----------------------------|-------------|
| Thr Thr 1970 | Pro Cys Ser Gly Ser 1975 | Trp Leu Arg Asp Ile 1980 | Trp Asp Trp |
| Ile Cys 1985 | Glu Val Leu Ser Asp 1990 | Phe Lys Thr Trp Leu 1995 | Lys Ala Lys |
| Leu Met 2000 | Pro Gln Leu Pro Gly 2005 | Ile Pro Phe Val Ser 2010 | Cys Gln Arg |
| Gly Tyr 2015 | Arg Gly Val Trp Arg 2020 | Gly Asp Gly Ile Met 2025 | His Thr Arg |
| Cys His 2030 | Cys Gly Ala Glu Ile 2035 | Thr Gly His Val Lys 2040 | Asn Gly Thr |
| Met Arg 2045 | Ile Val Gly Pro Arg 2050 | Thr Cys Arg Asn Met 2055 | Trp Ser Gly |
| Thr Phe 2060 | Pro Ile Asn Ala Tyr 2065 | Thr Thr Gly Pro Cys 2070 | Thr Pro Leu |
| Pro Ala 2075 | Pro Asn Tyr Lys Phe 2080 | Ala Leu Trp Arg Val 2085 | Ser Ala Glu |
| Glu Tyr 2090 | Val Glu Ile Arg Arg 2095 | Val Gly Asp Phe His 2100 | Tyr Val Ser |
| Gly Met 2105 | Thr Thr Asp Asn Leu 2110 | Lys Cys Pro Cys Gln 2115 | Ile Pro Ser |
| Pro Glu 2120 | Phe Phe Thr Glu Leu 2125 | Asp Gly Val Arg Leu 2130 | His Arg Phe |
| Ala Pro 2135 | Pro Cys Lys Pro Leu 2140 | Leu Arg Glu Glu Val 2145 | Ser Phe Arg |
| Val Gly 2150 | Leu His Glu Tyr Pro 2155 | Val Gly Ser Gln Leu 2160 | Pro Cys Glu |
| Pro Glu 2165 | Pro Asp Val Ala Val 2170 | Leu Thr Ser Met Leu 2175 | Thr Asp Pro |
| Ser His 2180 | Ile Thr Ala Glu Ala 2185 | Ala Gly Arg Arg Leu 2190 | Ala Arg Gly |

| | | | | | | | | | | | | | | |
|-------------|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|-------------|-----|-----|-----|
| Ser 2195 | Pro | Pro | Ser | Met | Ala | Ser 2200 | Ser | Ser | Ala | Ser | Gln 2205 | Leu | Ser | Ala |
| Pro 2210 | Ser | Leu | Lys | Ala | Thr | Cys 2215 | Thr | Ala | Asn | His | Asp 2220 | Ser | Pro | Asp |
| Ala 2225 | Glu | Leu | Ile | Glu | Ala | Asn 2230 | Leu | Leu | Trp | Arg | Gln 2235 | Glu | Met | Gly |
| Gly 2240 | Asn | Ile | Thr | Arg | Val | Glu 2245 | Ser | Glu | Asn | Lys | Val 2250 | Val | Ile | Leu |
| Asp 2255 | Ser | Phe | Asp | Pro | Leu | Val 2260 | Ala | Glu | Glu | Asp | Glu 2265 | Arg | Glu | Val |
| Ser 2270 | Val | Pro | Ala | Glu | Ile | Leu 2275 | Arg | Lys | Ser | Arg | Arg 2280 | Phe | Ala | Arg |
| Ala 2285 | Leu | Pro | Val | Trp | Ala | Arg 2290 | Pro | Asp | Tyr | Asn | Pro 2295 | Pro | Leu | Val |
| Glu 2300 | Thr | Trp | Lys | Lys | Pro | Asp 2305 | Tyr | Glu | Pro | Pro | Val 2310 | Val | His | Gly |
| Cys 2315 | Pro | Leu | Pro | Pro | Pro | Arg 2320 | Ser | Pro | Pro | Val | Pro 2325 | Pro | Pro | Arg |
| Lys 2330 | Lys | Arg | Thr | Val | Val | Leu 2335 | Thr | Glu | Ser | Thr | Leu 2340 | Ser | Thr | Ala |
| Leu 2345 | Ala | Glu | Leu | Ala | Thr | Lys 2350 | Ser | Phe | Gly | Ser | Ser 2355 | Ser | Thr | Ser |
| Gly 2360 | Ile | Thr | Gly | Asp | Asn | Thr 2365 | Thr | Thr | Ser | Ser | Glu 2370 | Pro | Ala | Pro |
| Ser 2375 | Gly | Cys | Pro | Pro | Asp | Ser 2380 | Asp | Val | Glu | Ser | Tyr 2385 | Ser | Ser | Met |
| Pro 2390 | Pro | Leu | Glu | Gly | Glu | Pro 2395 | Gly | Asp | Pro | Asp | Leu 2400 | Ser | Asp | Gly |
| Ser 2405 | Trp | Ser | Thr | Val | Ser | Ser 2410 | Gly | Ala | Asp | Thr | Glu 2415 | Asp | Val | Val |

| | | | | | | | | |
|---------|---------|---------|------|---------|---------|------|---------|-----|
| Cys Cys | Ser Met | Ser Tyr | Ser | Trp Thr | Gly Ala | Leu | Val Thr | Pro |
| 2420 | | | 2425 | | | 2430 | | |
| Cys Ala | Ala Glu | Glu Gln | Lys | Leu Pro | Ile Asn | Ala | Leu Ser | Asn |
| 2435 | | | 2440 | | | 2445 | | |
| Ser Leu | Leu Arg | His His | Asn | Leu Val | Tyr Ser | Thr | Thr Ser | Arg |
| 2450 | | | 2455 | | | 2460 | | |
| Ser Ala | Cys Gln | Arg Gln | Lys | Lys Val | Thr Phe | Asp | Arg Leu | Gln |
| 2465 | | | 2470 | | | 2475 | | |
| Val Leu | Asp Ser | His Tyr | Gln | Asp Val | Leu Lys | Glu | Val Lys | Ala |
| 2480 | | | 2485 | | | 2490 | | |
| Ala Ala | Ser Lys | Val Lys | Ala | Asn Leu | Leu Ser | Val | Glu Glu | Ala |
| 2495 | | | 2500 | | | 2505 | | |
| Cys Ser | Leu Thr | Pro Pro | His | Ser Ala | Lys Ser | Lys | Phe Gly | Tyr |
| 2510 | | | 2515 | | | 2520 | | |
| Gly Ala | Lys Asp | Val Arg | Cys | His Ala | Arg Lys | Ala | Val Ala | His |
| 2525 | | | 2530 | | | 2535 | | |
| Ile Asn | Ser Val | Trp Lys | Asp | Leu Leu | Glu Asp | Ser | Val Thr | Pro |
| 2540 | | | 2545 | | | 2550 | | |
| Ile Asp | Thr Thr | Ile Met | Ala | Lys Asn | Glu Val | Phe | Cys Val | Gln |
| 2555 | | | 2560 | | | 2565 | | |
| Pro Glu | Lys Gly | Gly Arg | Lys | Pro Ala | Arg Leu | Ile | Val Phe | Pro |
| 2570 | | | 2575 | | | 2580 | | |
| Asp Leu | Gly Val | Arg Val | Cys | Glu Lys | Met Ala | Leu | Tyr Asp | Val |
| 2585 | | | 2590 | | | 2595 | | |
| Val Ser | Lys Leu | Pro Leu | Ala | Val Met | Gly Ser | Ser | Tyr Gly | Phe |
| 2600 | | | 2605 | | | 2610 | | |
| Gln Tyr | Ser Pro | Gly Gln | Arg | Val Glu | Phe Leu | Val | Gln Ala | Trp |
| 2615 | | | 2620 | | | 2625 | | |
| Lys Ser | Lys Lys | Thr Pro | Met | Gly Phe | Ser Tyr | Asp | Thr Arg | Cys |
| 2630 | | | 2635 | | | 2640 | | |
| Phe Asp | Ser Thr | Val Thr | Glu | Ser Asp | Ile Arg | Thr | Glu Glu | Ala |

| | | |
|---|------|------|
| 2645 | 2650 | 2655 |
| Ile Tyr Gln Cys Cys Asp Leu Asp Pro Gln Ala Arg Val Ala Ile 2660 2665 2670 | | |
| Lys Ser Leu Thr Glu Arg Leu Tyr Val Gly Gly Pro Leu Thr Asn 2675 2680 2685 | | |
| Ser Arg Gly Glu Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly 2690 2695 2700 | | |
| Val Leu Thr Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Ile Lys 2705 2710 2715 | | |
| Ala Arg Ala Ala Cys Arg Ala Ala Gly Leu Gln Asp Cys Thr Met 2720 2725 2730 | | |
| Leu Val Cys Gly Asp Asp Leu Val Val Ile Cys Glu Ser Ala Gly 2735 2740 2745 | | |
| Val Gln Glu Asp Ala Ala Ser Leu Arg Ala Phe Thr Glu Ala Met 2750 2755 2760 | | |
| Thr Arg Tyr Ser Ala Pro Pro Gly Asp Pro Pro Gln Pro Glu Tyr 2765 2770 2775 | | |
| Asp Leu Glu Leu Ile Thr Ser Cys Ser Ser Asn Val Ser Val Ala 2780 2785 2790 | | |
| His Asp Gly Ala Gly Lys Arg Val Tyr Tyr Leu Thr Arg Asp Pro 2795 2800 2805 | | |
| Thr Thr Pro Leu Ala Arg Ala Ala Trp Glu Thr Ala Arg His Thr 2810 2815 2820 | | |
| Pro Val Asn Ser Trp Leu Gly Asn Ile Ile Met Phe Ala Pro Thr 2825 2830 2835 | | |
| Leu Trp Ala Arg Met Ile Leu Met Thr His Phe Phe Ser Val Leu 2840 2845 2850 | | |
| Ile Ala Arg Asp Gln Leu Glu Gln Ala Leu Asn Cys Glu Ile Tyr 2855 2860 2865 | | |
| Gly Ala Cys Tyr Ser Ile Glu Pro Leu Asp Leu Pro Pro Ile Ile 2870 2875 2880 | | |

| | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|
| Gln | Arg | Leu | His | Gly | Leu | Ser | Ala | Phe | Ser | Leu | His | Ser | Tyr | Ser |
| 2885 | | | | | | 2890 | | | | | 2895 | | | |
| Pro | Gly | Glu | Ile | Asn | Arg | Val | Ala | Ala | Cys | Leu | Arg | Lys | Leu | Gly |
| 2900 | | | | | | 2905 | | | | | 2910 | | | |
| Val | Pro | Pro | Leu | Arg | Ala | Trp | Arg | His | Arg | Ala | Arg | Ser | Val | Arg |
| 2915 | | | | | | 2920 | | | | | 2925 | | | |
| Ala | Arg | Leu | Leu | Ser | Arg | Gly | Gly | Arg | Ala | Ala | Ile | Cys | Gly | Lys |
| 2930 | | | | | | 2935 | | | | | 2940 | | | |
| Tyr | Leu | Phe | Asn | Trp | Ala | Val | Arg | Thr | Lys | Leu | Lys | Leu | Thr | Pro |
| 2945 | | | | | | 2950 | | | | | 2955 | | | |
| Ile | Ala | Ala | Ala | Gly | Arg | Leu | Asp | Leu | Ser | Gly | Trp | Phe | Thr | Ala |
| 2960 | | | | | | 2965 | | | | | 2970 | | | |
| Gly | Tyr | Ser | Gly | Gly | Asp | Ile | Tyr | His | Ser | Val | Ser | His | Ala | Arg |
| 2975 | | | | | | 2980 | | | | | 2985 | | | |
| Pro | Arg | Trp | Phe | Trp | Phe | Cys | Leu | Leu | Leu | Leu | Ala | Ala | Gly | Val |
| 2990 | | | | | | 2995 | | | | | 3000 | | | |
| Gly | Ile | Tyr | Leu | Leu | Pro | Asn | Arg | | | | | | | |
| 3005 | | | | | | 3010 | | | | | | | | |